

Operating Systems II

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Linux distribution

A Linux distribution is = The Linux kernel(OS) + Application software

Popular ones are

| Company/Organization | Commercial Version | Open Source Version |
|----------------------|-----------------------------------|---------------------|
| Redhat | Redhat Enterprise Linux | Fedora Core |
| Novell | SuSE Linux Enterprise | openSuSE |
| Debian | - | Debian GNU/Linux |
| Mandriva | Mandriva Corporate Desktop/Server | Mandriva Linux |

Which One to Choose?

- If one requires technical support, the commercial versions are the best option
- Open Source versions are freely available for download and are often distributed with IT magazines like Linux For You¹ and Digit²
- For a new Linux user my recommendations are openSuSE or Ubuntu Linux

¹<http://www.linuxforu.com>

²<http://www.thinkdigit.com>

Installation

Basic requirements

- Intel pentium systems I, II, III or IV (can even run on older ones)
- Minimum 256 MB RAM for a Graphic User Interface (KDE or GNOME)
- A hard disk - 5 - 10GB hard disk space

Notes

- Linux can be installed along with Windows systems (Multiboot)
- Requires partitioning of the hard disk and formatting to ext2 or ext3 filesystems
- Linux can also read and write data on the windows partitions

Live Linux Distributions

- Also known as Live CD's³
- Does not require any installation onto hard disk
- Can run directly from the CD
- Can be used for learning and to try out new distributions
- Atleast 256 - 512MB RAM is required
- Some examples include Ubuntu, Knoppix and Slax
- Live CD's with Bioinformatics software pre-installed are also available. Examples include VLinux⁴, BioKnoppix, Vigyaan CD.

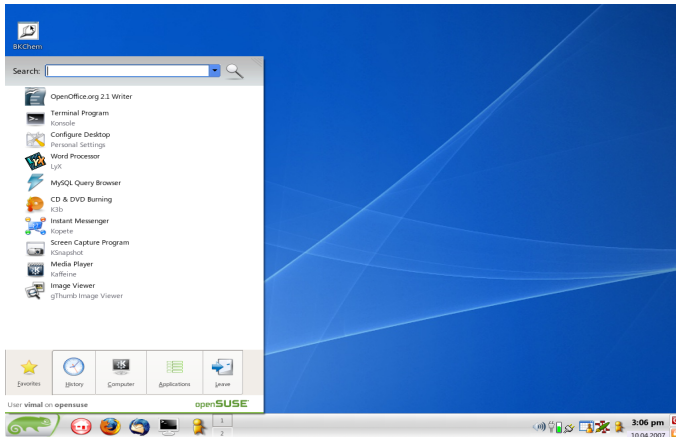
³Refer PDF articles on the Course Page

⁴Made by me!

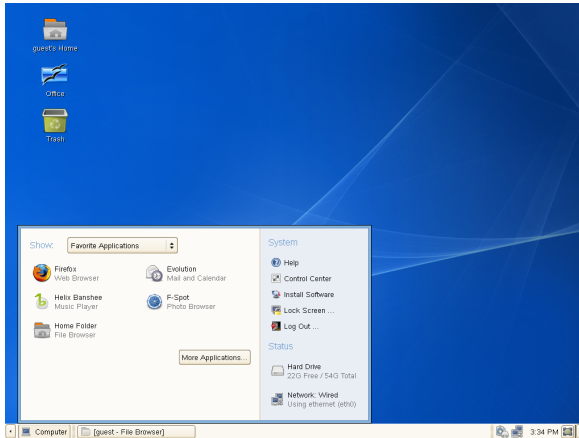
KDE and GNOME

- These are two major *Desktop Environments* available for Linux and other Unix'es
- It provides a Graphic User Interface to the Operating system.
- The *Desktop Environment* can be selected before logging in - under the *Session* or *Session type* option
- Others are also available - like IceWM, Fluxbox and so on.,
- Whatever DE is selected, the installed programs are accessible under all Desktop Environments i.e., a KDE program (ex: kwrite) can be run in GNOME and the *vice-versa*

KDE



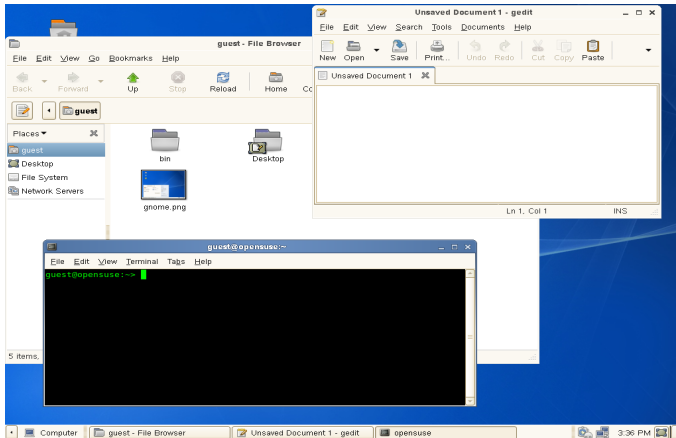
GNOME



Commonly used Applications

| Task | Windows | Linux |
|--------------------|-----------------------------------|--------------------------------|
| File Manager | Windows Explorer | Konqueror, Nautilus |
| Text Editing | Notepad | Kwrite, Gedit, vi |
| Word Processing | MS Word | OpenOffice Writer |
| Spread sheets | MS Excel | OpenOffice Calc |
| Presentation | MS Powerpoint | OpenOffice Impress |
| PDF Viewer | Acrobat Reader | Acrobat Reader, Evince, Kpdf |
| Image Manipulation | Adobe Photoshop | Gimp |
| Image Viewer | Explorer, Irfan view | Gthumb, Gwenview |
| Terminal | Dos | Konsole, Gnome-terminal, xterm |
| Web Browsing | Internet Explorer, Firefox, Opera | Firefox, Opera, Konqueror |
| Email | Outlook Express, Thunderbird | Thunderbird, Kmail, Evolution |
| Screenshots | - | ksnapshot |

Applications



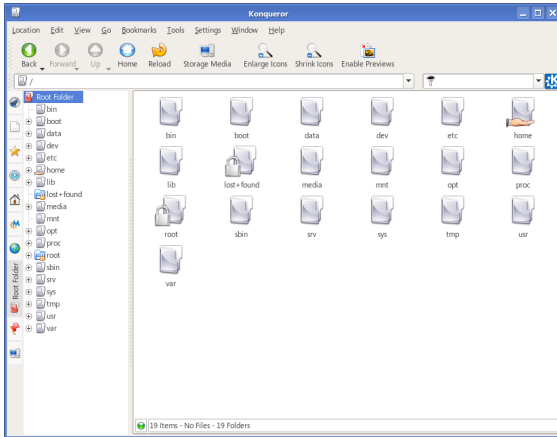
Files and Directories

- Not organized as C and D drives
- A common directory structure is followed - known as *Filesystem Hierarchy Standard*
- Each directory will hold files of a particular type

Example

- /bin and /usr/bin holds executable programs
- /etc holds configuration files
- /home holds user files
- /var stores log files and mail
- /tmp stores all temporary files
- /root holds files of the root user(administrator)
- /boot stores files required for booting
- /mnt and /media are places where devices like floppy, cd, DVD are made available

The Linux Filesystem



Accessing Devices

- **Floppy devices** - can be accessed by using the “*My Computer*” icon on the desktop and clicking on the Floppy icon
 - Once reading and writing is complete, the floppy has to be *unmounted*
- **CDROM's and DVD's** - automatically mounted and displayed in Konqueror (File Manager)
 - Right Click and select “*Eject*” once finished
- **USB Disks and Devices** - also mounted automatically in `/media`
 - Right Click and select “*Safely Remove*” once finished